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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,777	01/09/2007	Shunichi Osada	0599-0215PUS1	3791
2292 7590 09/12/2008 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER NELSON, MICHAEL B				
ART UNIT		PAPER NUMBER		
1794				
NOTIFICATION DATE		DELIVERY MODE		
09/12/2008		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/575,777

Applicant(s)

OSADA ET AL.

Examiner

MICHAEL B. NELSON

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/88)
Paper No(s)/Mail Date 02/05/07, 04/13/06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Information Disclosure Statement

1. The IDS filed on 02/05/07 contains references that were already disclosed in the IDS filed on 04/13/06 and therefore were not considered by the examiner.

Specification

2. The use of the trademarks (for example, Acrypet, Page 33) has been noted in this application. They should be capitalized wherever they appear and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Objections

3. Claims 1-3 are objected to because of the following informalities: "of the resin layers" appears to be repeated in line 3, 2 and 2 respectively. Appropriate correction is required.
4. Claims 7 and 16-18 are objected to because of the following informalities: "adjacent ones of the resin layers" appears to be a typo or mistranslation of "adjacent resin layers." Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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6. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 4, it is unclear from the wording of the limitations if the thickness of the layers having a composition A are meant to increase both to and from the surfaces and the center or are meant to increase and then decrease (i.e. 1:2:2:3 or 1:2:2:1). The increasing or decreasing of the thickness on one side of the center of the laminate is independent of the increasing or decreasing of the thickness on the other side of the center as the claim currently stands. It would be remedial to change the language to something along the lines of: "increase from the first surface towards the center and then decrease from the center to the other surface **or** decrease from the first surface towards the center and then increase from the center to the other surface."

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-5, 7-12 and 16-20, are rejected under 35 U.S.C. 102(b) as being anticipated by Weber et al. (U.S. 6,531,230), with Arends et al. (U.S. 5,360,659) as evidentiary support.

Regarding claim 1, Weber et al. discloses a laminated film with alternating layers of PMMA, 46.7 nm thick, and PEN, 100nm thick, in which a linear thickness gradient is employed which results in the thickness of the layers changing from one surface to the other (C11, L30-67).

Regarding claims 2-4, Weber et al. discloses all of the limitations as set forth above. Additionally the reference discloses a laminated film in which the stacked structure has a relative optical thickness in which, from left to right, the layers of A decrease, and the layers of B increases towards the center and then decrease back to the other surface (C26, L60-C27, L40).

Regarding claims 5 and 10-12, Weber et al. discloses all of the limitations as set forth above. Additionally the reference discloses a laminated film comprising two thermoplastic resins which are disclosed as having refractive indexes of 1.75 and 1.50, (C17, L15-25).

Regarding claims 7, and 16-18, Weber et al. Discloses all of the limitations as set forth above. Additionally the reference discloses a laminated film comprising a thickness structure in which the stacked structure possesses the instant claimed thickness ratios. See C26, L60-C27, L40, Arends et al. is incorporated by reference into Weber et al. From Arends et al., C9, L40-C10, L15, polycarbonate and polymethyl methacrylate are disclosed as the resins for use in the stacked structure. Using either polycarbonate or polymethyl methacrylate resin as A or B to calculate the actual thickness from the optical thickness, the ratio of thicknesses (thin/thick) between the first B layer and the first A layers falls within the second instant claimed range (i.e.

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0.01 to 0.5) and the thickness ratio (thin/thick) of the first B layer to the second A layer falls within the first instant claimed range (i.e. 0.8-1.0.)

Regarding claim 8, Weber et al. discloses all of the limitations as set forth above. Additionally the reference discloses a laminated film wherein the number of the laminated layers is made with 80 layers (C17, L15-25).

Regarding claims 9 and 18-20, Weber et al. discloses all of the limitations as set forth above. Weber et al. does not explicitly disclose a laminate film wherein the maximum light ray reflectivity is 25% or less in a wavelength range of 200 to 2500 nm, however in light of the substantially identical refractive indexes and thicknesses of the layers in the stack of Weber et al. with the instant layers, it will inherently possess the instant claimed properties (See Fig. 23-25, G, L and P, for the range of 400nm-1200nm, the laminated film has a reflectance of less than 25%.)

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 6 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber et al. (U.S. 6,531,230), with Arends et al. (U.S. 5,360,659) as evidentiary support, as applied to claims 1-4 above.

Regarding claims 6, and 13-15, Weber et al. discloses all of the limitations as set forth above. Additionally the reference discloses a laminated film wherein the range of optical thicknesses substantially overlaps the claimed range, with the lower endpoint, 0.01 micrometers, lying within the claimed range (C2, L55-C3, L5). Also see C26, L60-C27, L40, in the disclosed embodiment, which comes from an incorporation by reference of Arends et al., the stacked structure has 4 relatively thin layers and 2 relatively thick layers, which would result in more than half of the layers being relatively thin layers. It would have been obvious to one having ordinary skill in the art to use the disclosed very thin layers (i.e. 0.01 micrometers optical

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thickness) as the relatively thin layers in the stacked structure incorporated by reference from Arends et al. because it was known at the time that the very thin layers enable bands of iridescence to be so close that they are indiscernible to the human eye (Weber et al., C2, L55-C3, L5).)

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL B. NELSON whose telephone number is (571) 270-3877. The examiner can normally be reached on Monday through Thursday 6AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MN/
05/29/08

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/Carol Chaney/

Supervisory Patent Examiner, Art Unit 1794